Name:

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Geometry, Period

Due Date: Wed, May 13, 2015

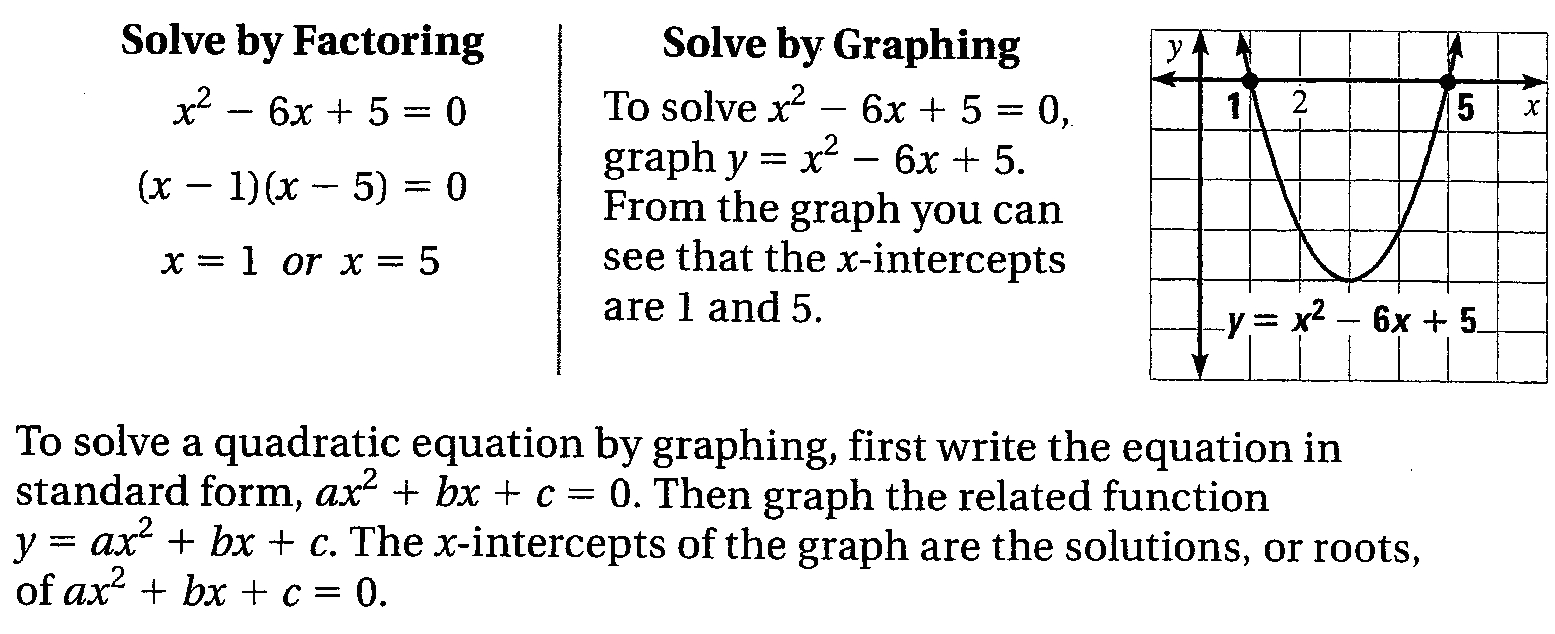
**Geometry**

**Homework**

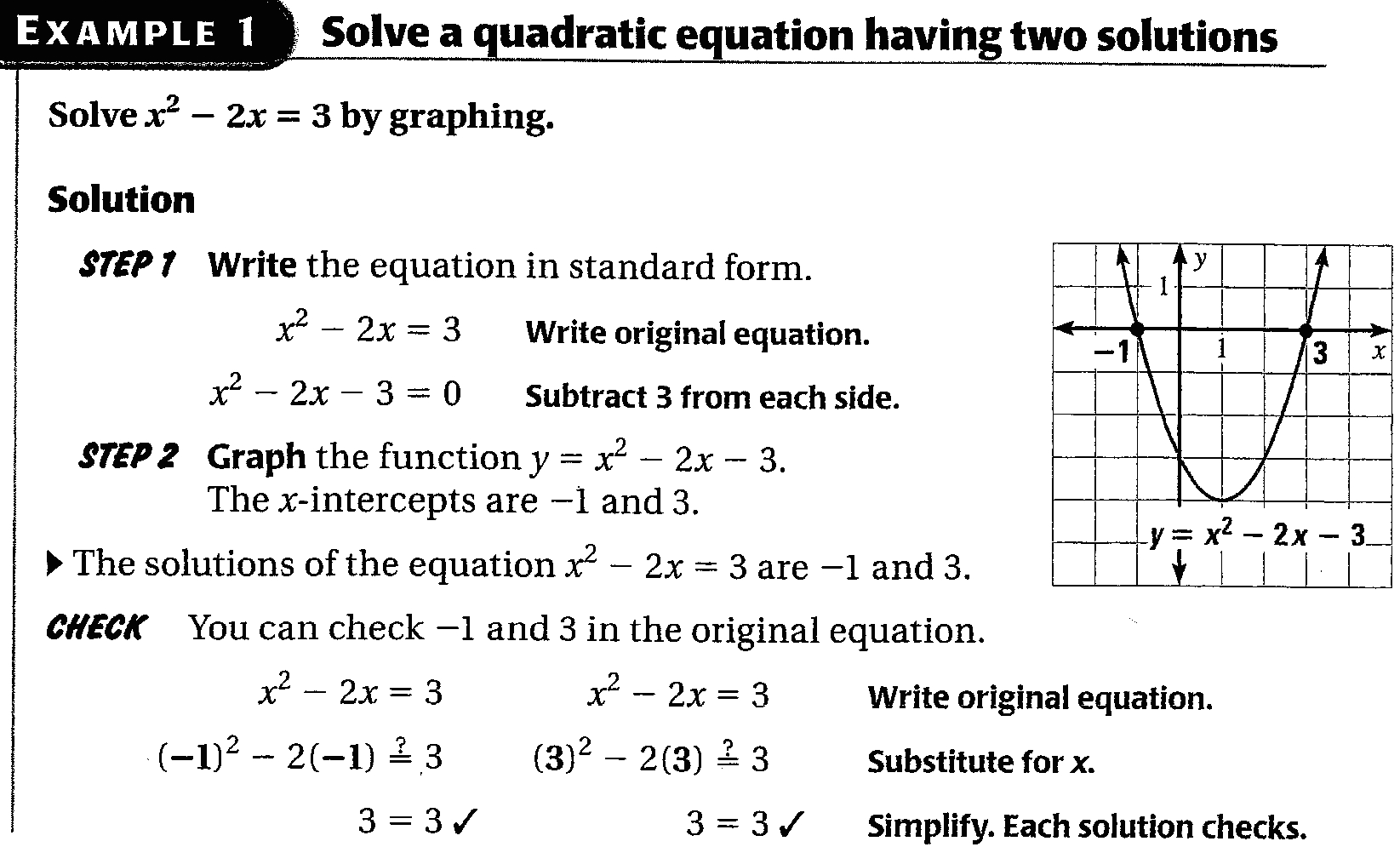


***Graphing Quadratics (using calculators) for Projectile Motion***

Quadratic equations can be solved in many ways, including by factoring & by graphing. For example:



1. Explain in your own words how the graph shows the same answer as the factors.
2. Check both answers by substituting each (one at a time) for x in the original equation:

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1. Can this problem also be solved by factoring? Show your work here:
2. Could this quadratic represent projectile motion (an object that is thrown)? Why or why not?
3. Graph . Sketch the graph to the right   
   (be sure to draw & label the x & y axis):
4. Explain why the equation has no solution.

Let’s break down the equation *The* ***4*** *is the initial height (feet) when it was thrown.*

***h*** *stands for height (ex: ft)* ***12*** *is the initial speed (ft/sec). +12 means it was thrown upward.*

***t*** *stands for time (ex: sec) -****16*** *is the coefficient for gravity on earth, if measured in ft/sec2*



***A possible word problem for this equation:****Jena is 4 feet tall. If she threw a ball upward at 12 feet per second, how many seconds would it take to reach earth?*

1. Graph on your calculator. You need to use x & y,   
   so
2. Sketch out the graph on your screen here, label #1🡪
3. What are the 2 solutions (x-intercepts)?
4. Which zero represents the time the ball hit earth?   
   Why not the other one?
5. How would the graph look different if it was (minus 12x instead of plus 12x)?  
   Sketch this on the same graph (label it #2).
   1. What does this mean about how the ball is thrown?
   2. What would the zeros be?
   3. Which one represents when the ball would hit the ground?
6. How would the graph look different if it was (minus 4 instead of plus 4)?  
   Sketch this on the same graph (label it #3).
   1. Why does this make the original word problem impossible (2 reasons)?
   2. Explain the solution

***If each equation below represents a thrown object, sketch the graph & write when it would hit the ground:***

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| --- | --- | --- | --- |
| *A)*  http://www.pleacher.com/mp/mgifs/gifs2/graphm.gif | http://www.pleacher.com/mp/mgifs/gifs2/graphm.gif | http://www.pleacher.com/mp/mgifs/gifs2/graphm.gif | *1. Be sure to write the one solution* ***under*** *each graph.*  *2. What is the difference between how the ball was released (from a height of 9 feet) in graphs A, B, & C?* |